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FILE COVERS 1907 - 3 Nov 2004 VOL 141 ISS 19
FILE LAST UPDATED: 1 Nov 2004 (20041101/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s (resole resin)
      604 RESOLE
      549355 RESIN
L1      159 (RESOLE RESIN)
          (RESOLE(W)RESIN)

=> s (aldehyde (10w) (phenol or bisphenol))
      98328 ALDEHYDE
      229153 PHENOL
      64998 BISPHENOL
L2      836 (ALDEHYDE (10W) (PHENOL OR BISPHENOL))

=> s l1 and l2
L3      3 L1 AND L2

=> d l3 1-3 ti, ab, bib

L3      ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
TI      Thixotropic compositions based on phenol-aldehyde resole resins for
in-mold coatings for phenolic laminates
AB      Compns. that provide hard, defect-free, coatable surfaces on laminates of
glass fiber-reinforced phenol-aldehyde resins contain an
acid-hardenable phenol-aldehyde resole resin
, highly dispersed hydrophobic amorphous silica, and a viscosity modifier,
with Brookfield spindle-4 viscosity 40-50 and 14-18 P at 5 and 50 rpm,
resp. Optionally, the compns. contain addnl. inorg. filler and exhibit
spindle-7 viscosity 80-200 and 300-600 P at 50 and 5 rpm, resp. Thus, a
compn. (spindle-7 viscosity 440 and 130 P at 5 and 50 rpm) contg. 1.6:1
HCHO-phenol resole resin (I) 100, glass spheres (av.
diam. 15 .mu.m) 110, Aerosil R805 (av. particle diam. 12 nm) 2, and
viscosity modifier 2 parts was mixed with 2.5% Phencat 15 catalyst,
brushed at 0.3-0.4-mm thick on a mold surface, heated 20 min at
60.degree., laid-up with 3 layers of chopped glass strand mat and a layer
of I contg. 6% Phencat 10 catalyst at I-glass ratio 2:1, and cured 3 h at
60.degree. in the mold and 4 h at 60.degree. outside the mold.
AN      1992:257524  CAPLUS
DN      116:257524
TI      Thixotropic compositions based on phenol-aldehyde resole resins for
in-mold coatings for phenolic laminates
IN      Francis, Robert Stradling; Orpin, Murray Roy
PA      BP Chemicals Ltd., UK
SO      Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT      Patent
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LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 476829	A2	19920325	EP 1991-307434	19910813
	EP 476829	A3	19921125		
	EP 476829	B1	19960925		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 143399	E	19961015	AT 1991-307434	19910813
	ES 2091295	T3	19961101	ES 1991-307434	19910813
	ZA 9106624	A	19930428	ZA 1991-6624	19910821
	CA 2049823	AA	19920302	CA 1991-2049823	19910826
	JP 04234451	A2	19920824	JP 1991-218372	19910829
	AU 9183506	A1	19920305	AU 1991-83506	19910830
	AU 641542	B2	19930923		
	US 5334630	A	19940802	US 1991-752730	19910830
PRAI	GB 1990-19143		19900901		

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Phenolic resin binders for foundry and refractory uses

AB Alkoxy-modified phenolic resole (I) resins are suitable for binders having good storage properties. I resin contains .gtoreq.1 alkoxyethylene group for each 20 phenolic nuclei joined mainly by ortho-ortho benzylic ether bridges. The resins are prep'd. by reacting phenol, aliph. alc., and an aldehyde (esp. aq. formaldehyde) with heating in the presence of a divalent metal ion catalyst. Preferred mol ratio of **aldehyde** to **phenol** is (1.2-2.2):1. Acid-hardened resin is a suitable binder for foundry molds or ceramic refractory mixts. Thus, charge soln. contg. phenol 3891, aq. 50% formaldehyde 3603, MeOH 639, and aq. 25% Zn acetate 311.4 g was refluxed 3 h to reach free formaldehyde 6-8%. Excess water was removed by heating at 50-90.degree.. After MeOH 639 g was added again, the soln. was refluxed 7 h for 1.2% free formaldehyde. Resulting I resin was mixed with 200 g MeOH and 12 g .gamma.-aminopropyltriethoxy silane. Dried SiO2 sand 2500 g was mixed at 38.degree. with 10 g acid catalyst (80% benzenesulfonic acid and .apprx.1% H2SO4 in MeOH) for 1 min, and then with 27.5 g resin product for 1 min. The sand mixt. held for 1-10 min was pressed into tensile specimens, and showed tensile strength 7.6-34 kg/cm2 (decreasing after longer holding time). Conventional **resole resin** lost strength when the mixt. was held for >5 min. The I resin product at 31.degree. could be stored for 1 yr without showing an excessive increase in viscosity.

AN 1986:447382 CAPLUS

DN 105:47382

TI Phenolic resin binders for foundry and refractory uses

IN Iyer, Raja; Shah, Rasik C.; Laitar, Robert

PA Acme Resin Corp., USA

SO Eur. Pat. Appl., 31 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 179360	A2	19860430	EP 1985-112854	19851010
	EP 179360	A3	19870408		
	EP 179360	B1	19910102		
	R: BE, DE, FR, GB, IT, NL, SE				
	US 4657950	A	19870414	US 1984-660169	19841012
	IN 166174	A	19900324	IN 1985-MA709	19850910
	BR 8505018	A	19860729	BR 1985-5018	19851009
	CA 1251883	A1	19890328	CA 1985-492606	19851009
	AU 8548483	A1	19860417	AU 1985-48483	19851010
	AU 583305	B2	19890427		
	JP 61097314	A2	19860515	JP 1985-225001	19851011

	ES 547786	A1	19870401	ES 1985-547786	19851011
	US 4848442	A	19890718	US 1987-106024	19871008
PRAI	US 1984-660169		19841012		
	US 1985-742688		19850610		
	US 1987-15497		19870206		

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Combustion-resistant phenolic forms
 AB Low-d., multicellular foam structures of thermal set phenol-
aldehyde condensates are prepd. by admixing with the liq.
phenol-aldehyde resole of viscosity 200-300,000 cp. at 25.degree.
 an Al halide contg. chloride or bromide or both in an amt. of .gtoreq.5
 parts/100 resole, foaming the resulting mixt., and curing the resole to a
 stable cured foam. Mixts. of 3 different resins were used, including a
 NaOH catalyzed phenol-HCHO **resole resin** of viscosity
 600-1000 and contg. 0.8% water, a resole (I) of viscosity 3000 cp. and
 water content 7.0%, and a resole of viscosity 10,000 cp. and water content
 8%. A typical foam was prepd. from I 100, AlCl3 7, surfactant 3, and Ucon
 113 (CFCl2CF2Cl) 10 parts. The foam obtained had a d. of 1.97, required
 10.2 min. to reach 500.degree.F. at the surface, showed no punking, i.e.
 continued glowing and combustion after removal of the flame, and had
 compressive strength 13.1 psi. Catalysts similarly used were AlBr3,
 TiCl4, FeCl3, AlCl3.6H2O, and HCl. Foams were also prepd. using mixts. of
 the epoxy resins and resole resins according to the formulation epoxy
 resin (diglycidyl ether bisphenol A of epoxy equiv. 190 and viscosity
 7000-9000 cp.) 7.5, **resole resin** of 3000 cp. 100,
 surfactant L-530 3.3, Ucon 113 11, and AlCl3 7.5 parts to give a foam of
 1.1 lb./ft.3 d., no punking, and requiring 16 min. to reach 500.degree.F.

AN 1968:22580 CAPLUS
 DN 68:22580
 TI Combustion-resistant phenolic forms
 PA Union Carbide Corp.
 SO Brit., 12 pp.
 CODEN: BRXXAA
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	GB 1088056		19671018		
PRAI	US		19631010		

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(FILE 'HOME' ENTERED AT 08:48:28 ON 03 NOV 2004)

FILE 'CAPLUS' ENTERED AT 08:48:38 ON 03 NOV 2004

L1 159 S (RESOLE RESIN)
 L2 836 S (ALDEHYDE (10W) (PHENOL OR BISPHENOL))
 L3 3 S L1 AND L2

=> s l2 and resole

604 RESOLE
 L4 9 L2 AND RESOLE

=> d l4 1-9 ti, ab, bib

L4 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Bisphenol-containing resin coating particles and methods of using them
 AB Proppants comprising a particle coated with a compn. comprising bisphenol-
aldehyde novolak resin, a **bisphenol** homopolymer or
 mixts. including such polymers are disclosed. Foundry sands comprising a
 particle coated with a compn. comprising bisphenol-**aldehyde**

novolak resin, a **bisphenol** homopolymer or mixts. including such polymers are disclosed. Methods of making and using these proppant particles in subterranean formations or making and using these foundry sands in foundries are also disclosed.

AN 1996:728651 CAPLUS
 DN 125:333762
 TI Bisphenol-containing resin coating particles and methods of using them
 IN Johnson, Calvin K.; Tse, Kwok-Tuen
 PA Borden, Inc., USA
 SO Eur. Pat. Appl., 27 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 735234	A2	19961002	EP 1996-301260	19960226
	EP 735234	A3	19970924		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	US 5639806	A	19970617	US 1995-411887	19950328
	CA 2164794	AA	19960929	CA 1995-2164794	19951208
	AU 9640779	A1	19961010	AU 1996-40779	19960103
	AU 696125	B2	19980903		
	BR 9600242	A	19971223	BR 1996-242	19960126
	TW 432096	B	20010501	TW 1996-85100965	19960126
	CN 1143087	A	19970219	CN 1996-102797	19960325
	CN 1092209	B	20021009		
	US 5916933	A	19990629	US 1997-810449	19970304
	CN 1396189	A	20030212	CN 2002-106692	20020305
PRAI	US 1995-411887	A	19950328		

L4 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Thixotropic compositions based on phenol-aldehyde **resole** resins for in-mold coatings for phenolic laminates
 AB Compns. that provide hard, defect-free, coatable surfaces on laminates of glass fiber-reinforced phenol-aldehyde resins contain an acid-hardenable **phenol-aldehyde resole** resin, highly dispersed hydrophobic amorphous silica, and a viscosity modifier, with Brookfield spindle-4 viscosity 40-50 and 14-18 P at 5 and 50 rpm, resp. Optionally, the compns. contain addnl. inorg. filler and exhibit spindle-7 viscosity 80-200 and 300-600 P at 50 and 5 rpm, resp. Thus, a compn. (spindle-7 viscosity 440 and 130 P at 5 and 50 rpm) contg. 1.6:1 HCHO-phenol **resole** resin (I) 100, glass spheres (av. diam. 15 .mu.m) 110, Aerosil R805 (av. particle diam. 12 nm) 2, and viscosity modifier 2 parts was mixed with 2.5% Phencat 15 catalyst, brushed at 0.3-0.4-mm thick on a mold surface, heated 20 min at 60.degree., laid-up with 3 layers of chopped glass strand mat and a layer of I contg. 6% Phencat 10 catalyst at I-glass ratio 2:1, and cured 3 h at 60.degree. in the mold and 4 h at 60.degree. outside the mold.

AN 1992:257524 CAPLUS
 DN 116:257524
 TI Thixotropic compositions based on phenol-aldehyde **resole** resins for in-mold coatings for phenolic laminates
 IN Francis, Robert Stradling; Orpin, Murray Roy
 PA BP Chemicals Ltd., UK
 SO Eur. Pat. Appl., 8 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 476829	A2	19920325	EP 1991-307434	19910813
	EP 476829	A3	19921125		

EP 476829	B1	19960925		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 143399	E	19961015	AT 1991-307434	19910813
ES 2091295	T3	19961101	ES 1991-307434	19910813
ZA 9106624	A	19930428	ZA 1991-6624	19910821
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JP 04234451	A2	19920824	JP 1991-218372	19910829
AU 9183506	A1	19920305	AU 1991-83506	19910830
AU 641542	B2	19930923		
US 5334630	A	19940802	US 1991-752730	19910830
PRAI GB 1990-19143		19900901		

L4 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Phenolic resin binders for foundry and refractory uses
 AB Alkoxy-modified phenolic **resole** (I) resins are suitable for binders having good storage properties. I resin contains .gtoreq.1 alkoxyethylene group for each 20 phenolic nuclei joined mainly by ortho-ortho benzylic ether bridges. The resins are prepd. by reacting phenol, aliph. alc., and an aldehyde (esp. aq. formaldehyde) with heating in the presence of a divalent metal ion catalyst. Preferred mol ratio of **aldehyde** to **phenol** is (1.2-2.2):1. Acid-hardened resin is a suitable binder for foundry molds or ceramic refractory mixts. Thus, charge soln. contg. phenol 3891, aq. 50% formaldehyde 3603, MeOH 639, and aq. 25% Zn acetate 311.4 g was refluxed 3 h to reach free formaldehyde 6-8%. Excess water was removed by heating at 50-90.degree.. After MeOH 639 g was added again, the soln. was refluxed 7 h for 1.2% free formaldehyde. Resulting I resin was mixed with 200 g MeOH and 12 g .gamma.-aminopropyltriethoxy silane. Dried SiO2 sand 2500 g was mixed at 38.degree. with 10 g acid catalyst (80% benzenesulfonic acid and .apprx.1% H2SO4 in MeOH) for 1 min, and then with 27.5 g resin product for 1 min. The sand mixt. held for 1-10 min was pressed into tensile specimens, and showed tensile strength 7.6-34 kg/cm2 (decreasing after longer holding time). Conventional **resole** resin lost strength when the mixt. was held for >5 min. The I resin product at 31.degree. could be stored for 1 yr without showing an excessive increase in viscosity.

AN 1986:447382 CAPLUS
 DN 105:47382
 TI Phenolic resin binders for foundry and refractory uses
 IN Iyer, Raja; Shah, Rasik C.; Laitar, Robert
 PA Acme Resin Corp., USA
 SO Eur. Pat. Appl., 31 pp.
 CODEN: EPXXDW
 DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 179360	A2	19860430	EP 1985-112854	19851010
	EP 179360	A3	19870408		
	EP 179360	B1	19910102		
	R: BE, DE, FR, GB, IT, NL, SE				
	US 4657950	A	19870414	US 1984-660169	19841012
	IN 166174	A	19900324	IN 1985-MA709	19850910
	BR 8505018	A	19860729	BR 1985-5018	19851009
	CA 1251883	A1	19890328	CA 1985-492606	19851009
	AU 8548483	A1	19860417	AU 1985-48483	19851010
	AU 583305	B2	19890427		
	JP 61097314	A2	19860515	JP 1985-225001	19851011
	ES 547786	A1	19870401	ES 1985-547786	19851011
	US 4848442	A	19890718	US 1987-106024	19871008
PRAI	US 1984-660169		19841012		
	US 1985-742688		19850610		
	US 1987-15497		19870206		

L4 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Resin compositions
 AB A molding compn., with reduced post-curing time but no loss of thermal stability, is prepd. from .gtoreq.50% aralkylene phenolic resin by addn. of .ltoreq.50% **aldehyde-phenol** resin. Thus, a mixt. of PhOH 752, 40% formalin 480, and oxalic acid 11.25 g was refluxed 2 h and cooled to give a novolac resin (I) [9003-35-4] which (40 g) was mixed with phenol-p-xylene dimethyl ether copolymer [26834-02-6] 120, asbestos flour 340, hexamine 20, Ca stearate 8, MgO 5, and Zn borate 8 g, processed 10 min at 120.degree., and cooled, giving a molding compn. The compn. was molded 10 min at 165.degree. and 100 psi and post cured at 140-250.degree.. The min. postcuring time was 6 h compared with 20 h for a control when I was omitted.

AN 1977:424213 CAPLUS
 DN 87:24213
 TI Resin compositions
 IN Edwards, Alfred Gerald; Harris, Glyn Islwyn
 PA Albright and Wilson Ltd., UK
 SO U.S., 7 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	US 4020035	A	19770426	US 1974-506242	19740916
	GB 1484621	A	19770901	GB 1974-40071	19740913
PRAI	CA 1973-181229		19730917		

L4 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Adhesive for reinforcing rubber
 AB Adhesive compns. contain a copolymer formed from H₂C:CH₂CO₂Me, a monoester of monoethylenically unsatd. dicarboxylic acid and a hydroxyalkene with a blend of a HCHO (I)-phenol resin and a rubber latex, are useful for bonding reinforcing elements to rubbery compns., to form articles and laminates. Thus 11.6 g resorcinol and 12.8 g I dissolved in 311.6 g H₂O to give a **resole** soln. A mixt. of 75 parts butadiene (II) and 25 parts 2-vinylpyridine (IIa) was emulsified in 157 parts of an aq. soln. contg. Na oleate 4, NaOH 0.5, I-Na naphthalenesulfonate condensation product 1, K₂S₂O₈ 1, and K₃Fe(CN)₆ 0.1 part; then 0.5 part lauryl mercaptan was added and the emulsion heated 20 hr in a sealed vessel at 40.degree.. The resulting smooth latex was treated with an antioxidant contg. 2 parts of a 55:45 N-phenyl-.alpha.-naphthylamine-Ph₂NH mixt. dispersed in H₂O (4 0% solids content). Similarly a 40% solids 75:25 II-styrene copolymer (III) was prepd. After 10.0 g of NaOH was added to the **resole** soln. to catalyze resin formation, 125 g of the II-IIa latex and 125 g III were added to the soln., and the resulting blend was aged 12-24 hr, then dild. to .apprx.20% solids. The dicarboxylic monoester-contg. copolymer was prepd. by a 2-charge polymn. method with a redox system and a nonionic emulsifier in the following amts. (amts. in g for both charges given): H₂O, 3000, 1500; Na lauryl sulfate, 20, 10; octylphenoxy-polyethoxyethanol, 400, 135; H₂C:CH₂CO₂Me. 2800, 2800; hydroxypropyl methacrylate, 750, 750; Bu H itaconate (IV), 185, 185; NaI sulfoxylate, 100, 60; K₂S₂O₈, 100, 35; FeSO₄.7H₂O, 0.5, -; tert-BuOOH, 80, 30. After the reactor was flushed with N, charge 1 was introduced and the polymn. medium stirred until it cooled to .apprx.35.degree., then charge 2 ingredients were added, and the polymn. medium was again stirred until the reaction was complete. The final product was then cooled and salted, with a latex of dicarboxylic acid monoester contg. polymer, which was dild. to .apprx.20% solids. The emulsion copolymer was mixed with the **aldehyde-phenol** -rubber latex prepd. in the wt. ratio of 5:95; then was adjusted to pH .apprx.6 with NH₄OH. Some of the carboxylic functionality was neutralized to the salt form, but the degree of neutralization was min. A

conventional nylon tire cord was passed under slight tension through an adhesive compn. at 6 ft/min and dried 1.5 min under 5 lb tension in air at .apprx.215.degree.. The treated nylon cord was used to reinforce a conventional III stock; the force necessary to remove the cord was .apprx.27.5 lb. A similar pull test was used on a laminate contg. a cord treated in the same way, with only the **aldehyde-phenol**-rubber latex; only .apprx.22.0 lb tensile force was necessary to pull the cord from the rubber. The procedure was repeated substituting 165 g laruy H itaconate for 185 g IV in each charge; when applied to a Dacron tire cord, the force necessary to pull the ends of the cord from the rubber was .apprx.1.5 lb while a control required only .apprx.1.0 lb. The same mixt. also gave good results when applied to a rayon tire cord, the procedure was again repeated replacing the 185 g IV with 75 g Me H itaconate, and using a 15:85 emulsion copolymer-dlend ratio. When applied to a nylon tire cord it required 29.5 lb, in contrast with the 22.0 lb tensile force needed to sep. the control cord.

AN 1970:56512 CAPLUS
 DN 72:56512
 TI Adhesive for reinforcing rubber
 IN Schmitt, Theophil D.
 PA Rohm and Haas Co.
 SO U.S., 5 pp.
 CODEN: USXXAM

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3483075	A	19691209	US 1966-589805	19661027
PRAI	US 1966-589805		19661027		

L4 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Resins from phenol-aldehyde condensation products and poly(hydroxy ethers)
 AB Phenolic coatings are given increased impact strength by blending a **resole** phenol-aldehyde condensation product with 10-40% 2,2-bis[p-(2,3-epoxypropoxy)phenyl]propane (I). Thus, a mixt. of 4,4'-isopropylidenediphenol 14.5, epichlorohydrin 46.8, EtOH 96, BuOH 10, NaOH 22.6, and water 70 parts was stirred at room temp. for 16 hrs. and heated 1 hr. at 80.degree., before 60 parts 7:3 PhMe-BuOH mixt. (II) was added. Heating was continued 2 hrs. at 80.degree., 50 parts II and 4.5 parts PhOH were added, and the mixt. was refluxed for 2.5 hrs. at 80.degree.. The mixt. was cooled, 200 parts II and 100 parts H2O were added, and the mixt. was allowed to settle for 10 min. The lower brine phase was sepd. and the upper polymer phase was H2O-washed, and neutralized 1 hr. with aq. (pH 2) H3PO4. The upper polymer phase was sepd., washed with 200 parts 4.5% aq. BuOH, coagulated in iso-PrOH, filtered, and dried to yield I. Steel panels were dip-coated in a soln. contg. 3:1 PhOH-cresol-HCHO condensation product 80, I 20, and 21:40:40 PhMe-MeCOEt-ethylene glycol monoethyl ether acetate 150 parts. The coating (0.5-1 mil) after curing for 15 min. at 400.degree.F. had 160 in.-lb. Gardner impact strength, good adhesion, good flexibility by 1/8 in. mandrel bend test, and was unaffected by 2 weeks immersion in PhMe. Similar coatings were prepd. from I and a 1:3 mixt. of PhOH and HCHO-I condensate. The use of poly(hydroxy ethers) prepd. from a phenol and 4-vinylcyclohexene or dipentene is claimed.

AN 1968:115386 CAPLUS
 DN 68:115386
 TI Resins from phenol-aldehyde condensation products and poly(hydroxy ethers)
 PA Union Carbide Corp.
 SO Brit., 8 pp.
 CODEN: BRXXAA

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1108790		19680403		
	DE 1494535			DE	
	US 3409581		19680000	US	
PRAI	US		19640629		

L4 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Combustion-resistant phenolic forms
 AB Low-d., multicellular foam structures of thermal set phenol-
aldehyde condensates are prepd. by admixing with the liq.
phenol-aldehyde resole of viscosity 200-300,000 cp. at
 25.degree. an Al halide contg. chloride or bromide or both in an amt. of
 .gtoreq.5 parts/100 **resole**, foaming the resulting mixt., and
 curing the **resole** to a stable cured foam. Mixts. of 3 different
 resins were used, including a NaOH catalyzed phenol-HCHO **resole**
 resin of viscosity 600-1000 and contg. 0.8% water, a **resole** (I)
 of viscosity 3000 cp. and water content 7.0%, and a **resole** of
 viscosity 10,000 cp. and water content 8%. A typical foam was prepd. from
 I 100, AlCl3 7, surfactant 3, and Ucon 113 (CFCl2CF2Cl) 10 parts. The
 foam obtained had a d. of 1.97, required 10.2 min. to reach 500.degree.F.
 at the surface, showed no punking, i.e. continued glowing and combustion
 after removal of the flame, and had compressive strength 13.1 psi.
 Catalysts similarly used were AlBr3, TiCl4, FeCl3, AlCl3.6H2O, and HCl.
 Foams were also prepd. using mixts. of the epoxy resins and **resole**
 resins according to the formulation epoxy resin (diglycidyl ether
 bisphenol A of epoxy equiv. 190 and viscosity 7000-9000 cp.) 7.5,
resole resin of 3000 cp. 100, surfactant L-530 3.3, Ucon 113 11,
 and AlCl3 7.5 parts to give a foam of 1.1 lb./ft.3 d., no punking, and
 requiring 16 min. to reach 500.degree.F.

AN 1968:22580 CAPLUS
 DN 68:22580
 TI Combustion-resistant phenolic forms
 PA Union Carbide Corp.
 SO Brit., 12 pp.
 CODEN: BRXXAA
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1088056		19671018		
PRAI	US		19631010		

L4 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Coatings for rubber articles
 AB Vulcanized rubber or rubberized articles are coated by depositing on their
 surface, by evapn. from a volatile medium, a coherent film from a blended
 compn. consisting essentially of a phenol-aldehyde resin and a vinyl resin
 that are at least partly compatible with one another. The phenol-
aldehyde resin employed is preferably a **resole** derived
 from a **phenol** having 3 or more reactive positions and HCHO, and
 a thermal treatment is applied, after the coating has been air-dried, that
 is adapted to harden the **resole**.

AN 1944:36475 CAPLUS
 DN 38:36475
 OREF 38:5434b-c
 TI Coatings for rubber articles
 PA E. I. du Pont de Nemours & Co.; Imperial Chemical Industries Ltd.
 DT Patent
 LA Unavailable
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI GB 553437 19430521 GB

L4 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Artificial resins for lacquers, etc.
AB A transparent compn. is prepd. comprising an oil-modified polyhydric
alc.-"polybasic" acid resin and phenol-aldehyde **resole**
substantially freed from unconverted **phenol** by extn. with a
phenol solvent such as water in which the resin itself is insol.
AN 1935:1758 CAPLUS
DN 29:1758
OREF 29:254a-b
TI Artificial resins for lacquers, etc.
IN Strafford, Norman; Walker, Eric E.
PA Imperial Chemical Industries Ltd.
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 1977652		19341023	US	

=> d hist

(FILE 'HOME' ENTERED AT 08:48:28 ON 03 NOV 2004)

FILE 'CAPLUS' ENTERED AT 08:48:38 ON 03 NOV 2004

L1 159 S (RESOLE RESIN)
L2 836 S (ALDEHYDE (10W) (PHENOL OR BISPHENOL))
L3 3 S L1 AND L2
L4 9 S L2 AND RESOLE

=> s l1 and (fuel cell)

341139 FUEL
1837086 CELL
42918 FUEL CELL
(FUEL(W) CELL)

L5 1 L1 AND (FUEL CELL)

=> s l1 and electrode

415757 ELECTRODE

L6 4 L1 AND ELECTRODE

=> d l5 ti

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

TI Method for forming a **fuel cell** electrode using a
resole binder

=> d l6 1-4 ti, ab

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
TI Conductive polymer, conductive polymer compositions and their use
AB The invention provides an **electrode**, electrolyte and/or a
separator plate comprising a conductive material-doped ester-cured
alkaline phenolic **resole resin** containing conducting
alkaline salts.

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
TI Method for forming a fuel cell **electrode** using a resole binder
AB A method for forming an **electrode** for a fuel cell is disclosed.
The method comprises combining an elec. conductive material (e.g.,
graphite) and a solid grindable **resole resin** binder,

the binder being essentially free of nitrogen and nitrogen-contg. compds., and consolidating the elec. conductive material and the binder to form the fuel cell **electrode**. The use of a solid, grindable, single stage, nitrogen-free **resole resin** binder serves to increase the operating life of the **electrode**. One example binder comprises the reaction product of bisphenol A and a molar excess of an aldehyde, such as formaldehyde.

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of reticulated vitrified carbon compositions containing metal and/or metal salts for electrodes
AB The compns. contain dispersed particles of Cu, Sn, Zn, Pb, Ni, and/or Fe, or alloys. Preferably, the content of the metal/alloy particles is 30-130 mg/cm³; the particles are spherical in shape with particle size <100 .mu.m; and some or all of the metal or alloy particles have been converted into salts or mixts. of salts, which are electro-catalytically active and chalcogenides. The process comprises: prepg. a compn. comprising a polymer or .gtoreq.1 polymer precursors which will form vitrified C on pyrolysis, and metal, metal alloy, or metal mixt.; heating the compn. to a temp. .gtoreq.that at which the polymer will pyrolyze (if a polymer is used), or curing the precursor (if a polymer precursor is used) to form a polymer and heat the resultant compn., where the polymer is a furan polymer; the precursor is furfuryl alc., furfural epoxy resin, novolac resin, or **resole resin**; hexamethylenetetramine is added as curing agent; and suitable reagents (polysulfide comprising a metal hydroxide, a metal sulfide and sulfur) are used to effect conversion of the metal or metal alloy into salts.

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
TI Resin binder system for carbon anodes, cathodes, and electrodes
AB Phenol-formaldehyde resins having a low content of volatiles are used as binders in the manuf. of baked electrodes from carbon or graphite. The preferred binder system consists of: powd. novolak resin having m.p. >110.degree. and volatiles <4% (including free PhOH vapor), and/or liq. **resole resin** of viscosity 50-450 cP and free PhOH content of 10-25%, optionally with hexamethylenetetramine hardener and acid accelerators. A mixt. of granular and powd. coke with the resin binder is shaped into electrodes and heated for hardening, carbonizing, and optionally graphitizing. The electrodes are suitable for electrowinning of Al as well as for metallurgical applications. Thus, a blend of granular and powd. coke was mixed with liq. **resole resin** having viscosity 150-400 cP and 65-70% solids. The mixt. contg. 7.8% binder solids was cold pressed into tensile specimens 0.5-in. thick and baked for hardening. Av. tensile strength was 301 psi, comparable to that obtained with 15% of com. coal-tar pitch binder with a similar coking value of 50-60%.

=> d 16 4 ti, bib

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
TI Resin binder system for carbon anodes, cathodes, and electrodes
AN 1989:11546 CAPLUS
DN 110:11546
TI Resin binder system for carbon anodes, cathodes, and electrodes
IN Chandramouli, Pitchaiya; Letizia, Benedict
PA Borden, Inc., USA
SO U.S., 13 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 4775455	A	19881004	US 1986-848468	19860407
	CA 1309542	A1	19921027	CA 1987-528163	19870126
	IN 168382	A	19910323	IN 1987-CA264	19870401
	AU 8771002	A1	19871008	AU 1987-71002	19870402
	AU 592170	B2	19900104		
	IN 168677	A	19910518	IN 1989-CA420	19890601
	IN 168678	A	19910518	IN 1989-CA421	19890601
	IN 168679	A	19910518	IN 1989-CA422	19890601
	IN 168680	A	19910518	IN 1989-CA425	19890601
PRAI	US 1986-848468		19860407		
	IN 1987-CA264		19870401		

=> d hist

(FILE 'HOME' ENTERED AT 08:48:28 ON 03 NOV 2004)

FILE 'CAPLUS' ENTERED AT 08:48:38 ON 03 NOV 2004

L1	159 S (RESOLE RESIN)
L2	836 S (ALDEHYDE (10W) (PHENOL OR BISPENOL))
L3	3 S L1 AND L2
L4	9 S L2 AND RESOLE
L5	1 S L1 AND (FUEL CELL)
L6	4 S L1 AND ELECTRODE

=> s (solid (5w) resole)

934371 SOLID

604 RESOLE

L7 7 (SOLID (5W) RESOLE)

=> d l7 1-7 ti, ab, bib

L7 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for forming a fuel cell electrode using a resole binder
 AB A method for forming an electrode for a fuel cell is disclosed. The method comprises combining an elec. conductive material (e.g., graphite) and a **solid** grindable **resole** resin binder, the binder being essentially free of nitrogen and nitrogen-contg. compds., and consolidating the elec. conductive material and the binder to form the fuel cell electrode. The use of a **solid**, grindable, single stage, nitrogen-free **resole** resin binder serves to increase the operating life of the electrode. One example binder comprises the reaction product of bisphenol A and a molar excess of an aldehyde, such as formaldehyde.

AN 2004:252164 CAPLUS

DN 140:273597

TI Method for forming a fuel cell electrode using a resole binder

IN Waitkus, Phillip A.; Lepeska, Bohumir B.; Morrison, Theodore N.; Sciarra, Paschal A.

PA USA

SO U.S. Pat. Appl. Publ., 5 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 2004058801	A1	20040325	US 2003-615713	20030709
PRAI	US 2002-394681P	P	20020709		

L7 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Mixed polymeric MDI/resol resin binders for the production of wood composite products

AB This invention relates to a process for the prodn. of composite wood

products. This process comprises: (a) applying a binder compn. to wood particles, and (b) molding or compressing the wood particles treated with the binder to form a composite wood product. Suitable binder compns. comprise a polymethylene poly(Ph isocyanate) and a **solid resole** resin.

AN 2000:421233 CAPLUS
DN 133:60270
TI Mixed polymeric MDI/resol resin binders for the production of wood composite products
IN Rosthauser, James W.; Detlefsen, William D.
PA Bayer Corporation, USA
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000036019	A1	20000622	WO 1999-US29298	19991210
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6214265	B1	20010410	US 1998-213595	19981217
	CA 2355055	AA	20000622	CA 1999-2355055	19991210
	BR 9916163	A	20010904	BR 1999-16163	19991210
	EP 1155087	A1	20011121	EP 1999-966106	19991210
	EP 1155087	B1	20040317		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	AU 752006	B2	20020905	AU 2000-21731	19991210
	JP 2002532292	T2	20021002	JP 2000-588273	19991210
	AT 262008	E	20040415	AT 1999-966106	19991210
	US 2001017427	A1	20010830	US 2001-773796	20010201
	US 6641761	B2	20031104		
PRAI	US 1998-213595	A	19981217		
	WO 1999-US29298	W	19991210		

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Adhesion promoter composition and products
AB An adhesion promoter compn. and method for enhancing adhesion between a polysulfide polymer sealant and a thermoplastic substrate (i.e., nylon, PVC, polypropylene) is provided having a **solid resole** phenolic resin (most preferably 10-50%, unmodified phenol-formaldehyde copolymer) and a compatible org. solvent (i.e., alc. or ketone), optionally contg. a chlorinated polyolefin (.ltoreq. 10%).

AN 1996:350591 CAPLUS
DN 125:60519
TI Adhesion promoter composition and products
IN Scholl, Steven L.
PA Fiber Resin Corp., USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 5516843	A	19960514	US 1994-251714	19940531
PRAI	US 1994-251714		19940531		

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI The chemistry of phenol-formaldehyde resin vulcanization of EPDM. Part I. Evidence for methylene crosslinks

AB The cure reaction mechanism and crosslink structure of EPDM, contain 2-ethylidene norbornene (ENB) as the third monomer, cured by phenol-formaldehyde resins are studied. 2-Ethylidene norbornane (ENBH) is used as a low mol. wt. model for EPDM. Reaction of ENBH and a resole resulted in scission of the dimethylene ether bridges, i.e. in degradn. of the resole into mono-, bis- and terisooctylphenol units. They are consequently converted into products, and link two ENBH mols. The **solid resole** is a technol. soln. for storing phenol in combination with formaldehyde. 2-Hydroxymethylphenol (HMP) is used as a low mol. wt. model for the resole. At low temps. and/or short reaction times HMP oligomers and HMP oligomers linked by ENBH mol. are formed, which are converted into ENBH/HMP (1:1) condensation products. The reaction products of ENBH with both resole and HMP contain methylene-linked structures, as demonstrated by the formation of monisooctylphenol crosslinks and the presence of residual unsatn. and hydroxyl groups.

AN 1996:98889 CAPLUS

DN 124:148446

TI The chemistry of phenol-formaldehyde resin vulcanization of EPDM. Part I. Evidence for methylene crosslinks

AU van Duin, Martin; Souphanthong, Aniko

CS DSM Res., Neth.

SO Rubber Chemistry and Technology (1995), 68(5), 717-27

CODEN: RCTEA4; ISSN: 0035-9475

PB American Chemical Society, Rubber Division

DT Journal

LA English

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Phenolic molding compositions

AB The title compns. with good thermal resistance comprise a mixt. of 3-7 parts **solid phenolic resole** resin contg. .ltoreq.7% free PhOH, having no.-av. mol wt. 800-1200, and having 20-50:10-20:40-60 mol ratio of methylene-methylol-dimethylene ether group and 3-7 parts similar phenolic resin having mol. wt. 600-1000 and 30-50:30-70:0-20 mol ratio of methylene-methylol-dimethylene ether group contg. 100-250 phr glass fibers. A mixt. of dimethylene ether-based phenolic resin (I) having free PhOH 4%, mol. wt. 950, and the mol. ratio of above groups 40:12:48 10, methylol-based phenolic resin having free PhOH 6.1%, mol. wt. 1000, and the mol ratio of above groups 50:30:20 20, glass fiber 50, clay 15, and additives 5 parts was injection-molded at 120.degree. to give a sample having thermal distortion temp. <250.degree., vs. 240.degree. for the compn. contg. I only.

AN 1987:408309 CAPLUS

DN 107:8309

TI Phenolic molding compositions

IN Oi, Keiji; Yamada, Masae

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 62034948	A2	19870214	JP 1985-173213	19850808
	JP 05074619	B4	19931018		

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Phenolic resoles

AB Solid resoles useful as binders were prepd. and had N-binding index 0.6-0.9, methylene-binding index 0.18-0.25, methylol group index 0.4-0.7, softening temp. 75-90.degree., gel time 40-120 s, and mol. wt. 300-450. For example, PhOH 940, 42% aq. HCHO 1214, and 25% aq. NH3 43 g were heated at 60.degree. for 30 min, treated with 1.0 g CaO for 1.5 h and then 26 g hexamethylenetetramine (I) for 1 h, further treated with 58 g I, and freed from water at .ltoreq.95.degree. to give a **solid resole** (II) [9003-35-4] with methylol group index 0.42, methylene-binding index 0.42, N-binding index 0.63, softening temp. 80.degree., gel time (150.degree.) 80 s, and mol. wt. 368. A molded specimen from II 50, wood flour 46, MgO 1.1, and Zn stearate 0.5 part had sp. gr. 1.35, bending strength 9.0 kg/mm², impact strength 3.0 kg-cm/cm, insulation resistance 1010 .OMEGA., and breakdown 12 kV/mm. A hardboard from 100 parts pulp and 20 parts II had sp. gr. 0.8, bending strength 450 kg/cm², and water absorption 30%.

AN 1981:16550 CAPLUS

DN 94:16550

TI Phenolic resoles

PA Gunei Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55106215	A2	19800814	JP 1979-7969	19790126
PRAI	JP 1979-7969		19790126		

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Phenolic resin and battery separator impregnated with it

AB The resistance to oxidn., acid degrdn., and migration of phenolic resin-impregnated cellulosic battery separators was improved by addn. of polyols to the aq. phenolic formulations used for impregnation. A series of 40% solids water-dilutable resole compns. was prepd. by condensing HCHO with PhOH in mole ratio 1.45-2.45:1 to give no. av. mol. wt. 150-240. The antimigratory agents ethylene glycol [107-21-1], glycerol [56-81-5], and sorbitol [50-70-4] were added at 16, 8, and 8 parts/100 parts **solid resole** resp. and the solns. were used to impregnate cellulosic sheets which were squeezed and dried 10 min at 180.degree. to give 40 wt.% pick up. The oxidative wt. loss and migration rate were both lower in the presence of the polyols than without additives. Using resorcinol or urea as additives increased the degree of migration and decreased oxidn. resistance resp.

AN 1976:75307 CAPLUS

DN 84:75307

TI Phenolic resin and battery separator impregnated with it

IN Jones, Robert T.

PA Monsanto Co., USA

SO U.S., 5 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3926679	A	19751216	US 1974-432111	19740109
PRAI	US 1974-432111		19740109		

=> FIL STNGUIDE
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
85.40	85.61

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-16.10	-16.10

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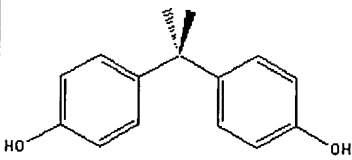
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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Oct 29, 2004 (20041029/UP).

Enter a Chemical Name, CAS Number, Molecular Formula or Weight.
Use * for partial names (e.g. ben*).
Search here for free. For professional searching, use ChemINDEX.

 Bisphenol A [80-05-7]

Synonyms: 2,2-Bis(4-Hydroxyphenyl)propane;
2,2-Bis(4'-hydroxyphenyl)propane; 2,2-di(4-phenylol)propane;
4,4'-dihydroxy-2,2-diphenylpropane;
p,p'-dihydroxydiphenyldimethylmethane; 4,4'-dihydroxydiphenylpropane;
4,4'-dimethylmethylenediphenol; 4,4'-bisphenol a;
4,4[-Isopropylidenediphenol; p,p'-isopropylidenebisphenol;
4,4'-ISOPROPYLIDENEDIPHENOL (BISPHENOL A);
beta,beta-di-(p-hydroxyphenyl)propane; bis(4-hydroxyphenyl)
dimethylmethane; bis(4-hydroxyphenyl)propane; DIAN; dimethyl
bis(p-hydroxyphenyl)methane; dimethylmethylene-p,p'-diphenol;
Bisphenol A; Bisphenol A ; Phenol, 4,4'-(1-methylethylidene)bis-;



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Formula	C ₁₅ H ₁₆ O ₂	Molecular Weight	228.2902
CAS RN	80-05-7	Melting Point (°C)	150 - 159
ACX Number	X1002023-2	Boiling Point (°C)	220 at 4 mm Hg
Density		Vapor Density	
Refractive Index		Vapor Pressure	
Evaporation Rate		Water Solubility	<0.1 g/100 mL at 21.5 C
Flash Point (°C)	227	EPA Code	
DOT Number		RTECS	SL6300000
Comments	White to light brown flakes or powder		

More information about the chemical is available in these categories:

Health MSDS Physical Properties Regulations
Trading